

## *APS Windows Servers*

*Steve Potempa*

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*Argonne National Laboratory is managed by  
The University of Chicago for the U.S. Department of Energy*

## *Microsoft Windows Active Directory*

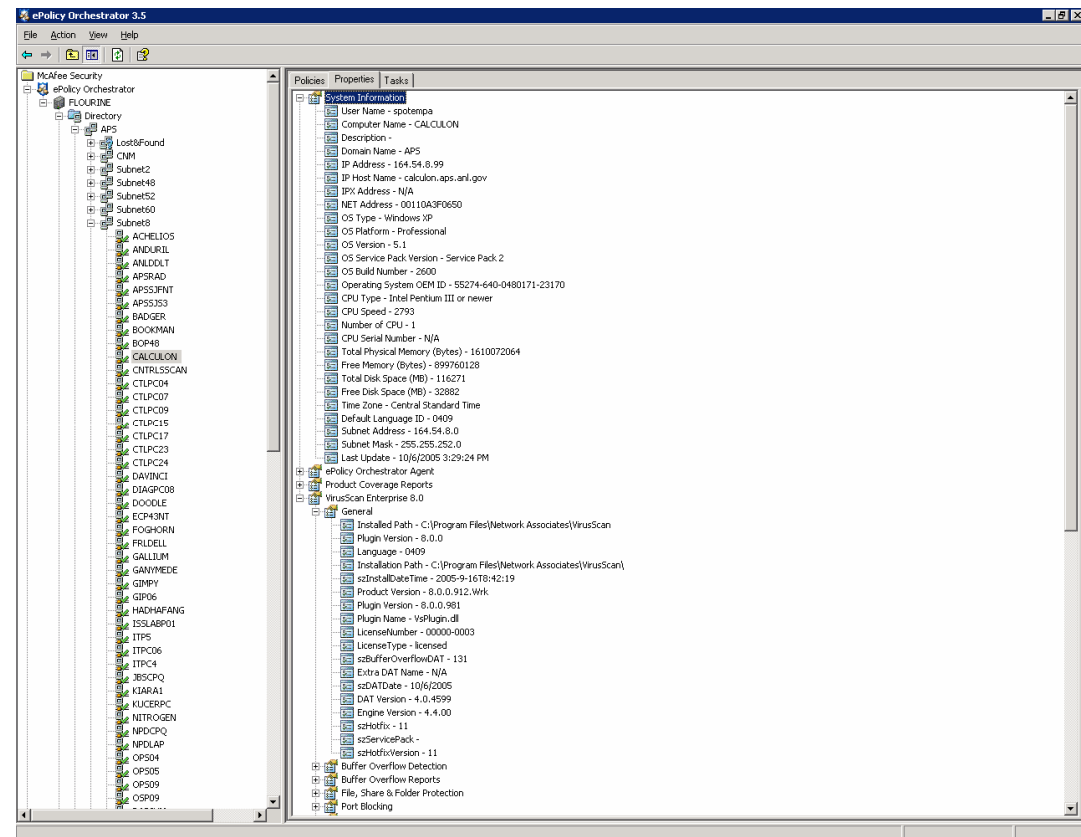
- Authentication
  - User logon
  - VPN & Dial-up
- Group Policy
  - Configuration Control
  - Software Deployment
- The APS Windows domain was upgraded in October 2004 from a Windows NT 4 Domain.
- The XOR Windows domain
  - In service January 2004.
  - Provides authentication, file, and print services to beamline systems.
  - Provides a separate environment for beamline Windows systems, allowing for a different set of Group Policies and patch management philosophy.

## *Cyber Security Related Activities*

- Active Directory Group Policy is used to enforce configuration management of operating system and application settings for Windows 2000 and XP based systems.
  - This last shutdown the ISS network scans performed by IT reported zero Windows vulnerabilities on the public APS networks.
- Update Expert is used to remotely deploy Microsoft operating system and application patches and service packs.

## Cyber Security Related Activities (continued)

- McAfee Virus Scan Enterprise 8i for desktop and server virus protection.
  - McAfee ePolicy Orchestrator to deploy and maintain Virus Scan.
  - Provides the capability to report and track virus activity.



## *Cyber Security Related Activities (continued)*

- Example of an immediate update due to the appearance of the 'R' variant of the Sober virus in the wild.
  - Date: 2005-10-06 09:09:05
    - PCs at Current Virus Signature Version: 6
    - PCs with Out of Date Virus Signature Versions 546
  - Date: 2005-10-06 10:28:52
    - PCs at Current Virus Signature Version: 549
    - PCs with Out of Date Virus Signature Versions: 10

## ***File & Print Services***

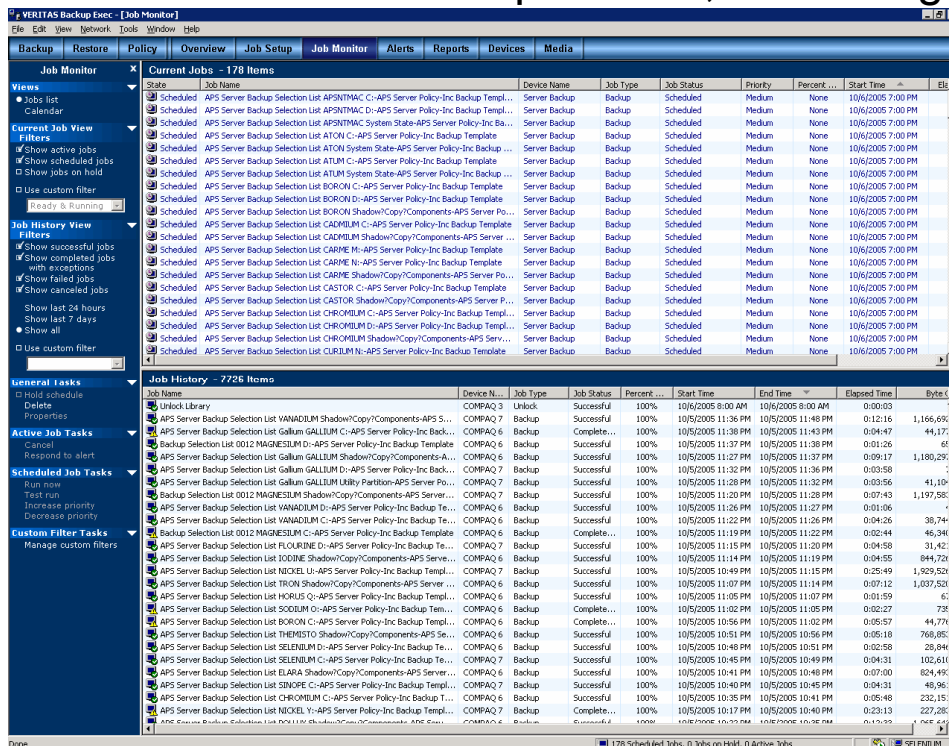
- User Home directories (z drive) .
- Central repository for Windows application installations.
- Print queues with the appropriate drivers that auto-install and update.
  
- Two node High Availability Windows cluster with ~2.5TB of disk.
  - Windows 2000 Cluster (January 2003).
  - Windows Server 2003 (December 2004).
  - 3<sup>rd</sup> node will be added to the Cluster during the Christmas shutdown.

## *Citrix Services*

- The Citrix servers provide access to Windows based applications and administrative applications (PARIS, AMOS, TMS, CMS, etc...).
  - Sun, Mac, Linux, and Windows based systems where conflicts with locally installed software occur (Pro/E).
  - Also provides remote access for the ASD Controls group to the Accelerator control systems via MEDM & Exceed.
  
- Secure remote web-based access to administrative and office applications via <https://metis.aps.anl.gov>.
  
- Windows Server 2003 & Citrix Metaframe XP
  - Three production servers – in service spring 2004.
  - Four supporting systems – Data store, Secure ticket authority, secure gateway, and web interface.
  - One test server – for testing patches and new software.

## Backup Services

- Data backup for all 32 Windows Servers and over 500 PC desktops.
  - Full backups occur weekly and incremental backups nightly.
- Six backup servers with five tape libraries process approximately 6TB a week.
  - The IT staff performs, on average, two restores per week.



**VERITAS Backup Exec - Job Monitor**

File Edit View Network Tools Window Help

Backup Restore Policy Overview Job Setup Job Monitor Alerts Reports Devices Media

**Job Monitor**

Views: Jobs list, Calendar

**Current Job View**

Filters: Show active jobs, Show scheduled jobs, Show jobs on hold, Use custom filter

**Job History View**

Filters: Show successful jobs, Show completed jobs with exceptions, Show failed jobs, Show last 24 hours, Show last 7 days, Show all, Use custom filter

**General Tasks**

Hold schedule, Delete, Properties

**Active Job Tasks**

Cancel, Respond to alert

**Scheduled Job Tasks**

Run now, Test run, Increase priority, Decrease priority

**Custom Filter Tasks**

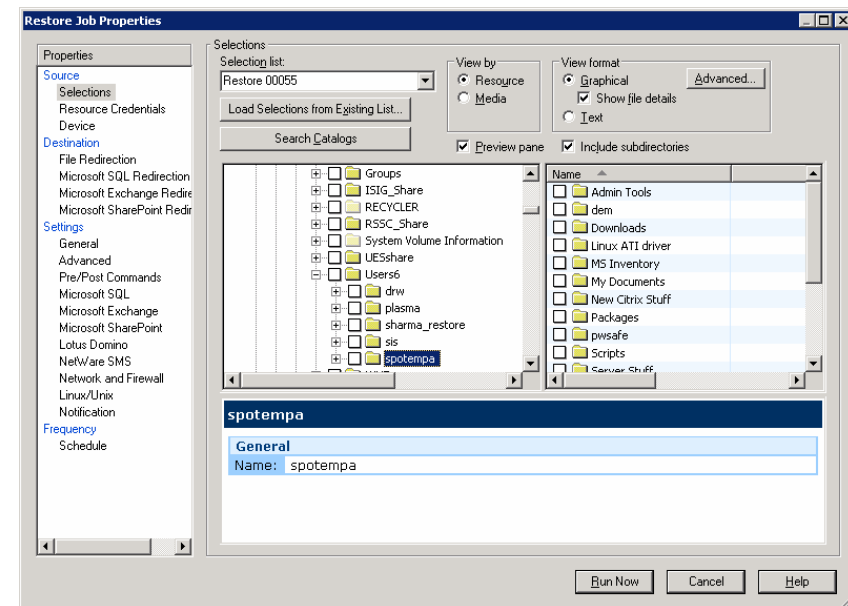
Manage custom filters

Job Name	Device Name	Job Type	Job Status	Percent	Start Time	End Time	Elapsed Time	Byte
Unlink Library	COMPQA3	Unlink	Successful	100%	10/4/2005 8:00 AM	10/4/2005 8:00 AM	0:00:03	
APPS Server Backup Selection List VANADIM Shadow/Copy/Components-APPS S...	COMPQA7	Backup	Successful	100%	10/5/2005 11:36 PM	10/5/2005 11:48 PM	0:12:16	1,166,695
APPS Server Backup Selection List GALLUM GALLUM C-APPS Server Policy-Inc Backup...	COMPQA6	Backup	Complete...	100%	10/5/2005 11:38 PM	10/5/2005 11:43 PM	0:04:47	44,177
Backup Selection List 0012 MAGNESIUM D-APPS Server Policy-Inc Backup Template	COMPQA6	Backup	Successful	100%	10/5/2005 11:37 PM	10/5/2005 11:38 PM	0:01:26	6
APPS Server Backup Selection List GALLUM GALLUM Shadow/Copy/Components-A...	COMPQA6	Backup	Successful	100%	10/5/2005 11:27 PM	10/5/2005 11:37 PM	0:09:17	1,180,285
APPS Server Backup Selection List GALLUM GALLUM D-APPS Server Policy-Inc Backup...	COMPQA7	Backup	Successful	100%	10/5/2005 11:32 PM	10/5/2005 11:36 PM	0:03:58	
APPS Server Backup Selection List GALLUM GALLUM Utility Partition-APPS Server Po...	COMPQA7	Backup	Successful	100%	10/5/2005 11:28 PM	10/5/2005 11:32 PM	0:03:56	41,10
Backup Selection List 0012 MAGNESIUM Shadow/Copy/Components-APPS Server...	COMPQA7	Backup	Successful	100%	10/5/2005 11:20 PM	10/5/2005 11:28 PM	0:07:43	1,197,583
APPS Server Backup Selection List VANADIM C-APPS Server Policy-Inc Backup Te...	COMPQA6	Backup	Successful	100%	10/5/2005 11:26 PM	10/5/2005 11:27 PM	0:01:06	
Backup Selection List 0012 MAGNESIUM C-APPS Server Policy-Inc Backup Template	COMPQA6	Backup	Successful	100%	10/5/2005 11:22 PM	10/5/2005 11:26 PM	0:04:26	36,74
Backup Selection List 0012 MAGNESIUM C-APPS Server Policy-Inc Backup Template	COMPQA6	Backup	Complete...	100%	10/5/2005 11:07 PM	10/5/2005 11:22 PM	0:02:44	46,34
APPS Server Backup Selection List FLORINE D-APPS Server Policy-Inc Backup Te...	COMPQA7	Backup	Successful	100%	10/5/2005 11:15 PM	10/5/2005 11:20 PM	0:04:58	31,42
APPS Server Backup Selection List IODINE Shadow/Copy/Components-APPS Serve...	COMPQA6	Backup	Successful	100%	10/5/2005 11:14 PM	10/5/2005 11:19 PM	0:04:55	844,72
APPS Server Backup Selection List NIOBEL U-APPS Server Policy-Inc Backup Tem...	COMPQA7	Backup	Successful	100%	10/5/2005 10:49 PM	10/5/2005 11:15 PM	0:25:49	1,929,52
APPS Server Backup Selection List TRON Shadow/Copy/Components-APPS Serve...	COMPQA6	Backup	Successful	100%	10/5/2005 11:11 PM	10/5/2005 11:14 PM	0:02:12	1,097,83
APPS Server Backup Selection List HORUS Q-APPS Server Policy-Inc Backup Tem...	COMPQA6	Backup	Successful	100%	10/5/2005 11:05 PM	10/5/2005 11:07 PM	0:01:59	6
APPS Server Backup Selection List SCODUM O-APPS Server Policy-Inc Backup Tem...	COMPQA6	Backup	Complete...	100%	10/5/2005 11:02 PM	10/5/2005 11:05 PM	0:02:27	73
APPS Server Backup Selection List BORON C-APPS Server Policy-Inc Backup Tem...	COMPQA6	Backup	Complete...	100%	10/5/2005 10:56 PM	10/5/2005 11:02 PM	0:05:57	44,77
APPS Server Backup Selection List THEMISTO Shadow/Copy/Components-APPS Se...	COMPQA6	Backup	Successful	100%	10/5/2005 10:51 PM	10/5/2005 10:56 PM	0:05:18	76,85
APPS Server Backup Selection List SILENIUM D-APPS Server Policy-Inc Backup Te...	COMPQA6	Backup	Successful	100%	10/5/2005 10:48 PM	10/5/2005 10:51 PM	0:02:59	26,94
APPS Server Backup Selection List SILENIUM C-APPS Server Policy-Inc Backup Te...	COMPQA7	Backup	Successful	100%	10/5/2005 10:45 PM	10/5/2005 10:49 PM	0:04:31	102,61
APPS Server Backup Selection List ELARA Shadow/Copy/Components-APPS Server...	COMPQA6	Backup	Successful	100%	10/5/2005 10:41 PM	10/5/2005 10:48 PM	0:07:00	824,45
APPS Server Backup Selection List SINDORE C-APPS Server Policy-Inc Backup Tem...	COMPQA7	Backup	Successful	100%	10/5/2005 10:40 PM	10/5/2005 10:45 PM	0:04:31	48,96
APPS Server Backup Selection List CHROMIUM C-APPS Server Policy-Inc Backup T...	COMPQA6	Backup	Successful	100%	10/5/2005 10:35 PM	10/5/2005 10:41 PM	0:05:48	232,15
APPS Server Backup Selection List NIOBEL Y-APPS Server Policy-Inc Backup Tem...	COMPQA7	Backup	Complete...	100%	10/5/2005 10:17 PM	10/5/2005 10:40 PM	0:23:13	227,25
APPS Server Backup Selection List RUTHIUM Shadow/Copy/Components-APPS Serve...	COMPQA6	Backup	Complete...	100%	10/5/2005 10:17 PM	10/5/2005 10:36 PM	0:19:35	456,6

Done

178 Scheduled Jobs, 0 Jobs on Hold, 0 Active Jobs

SELENIUM





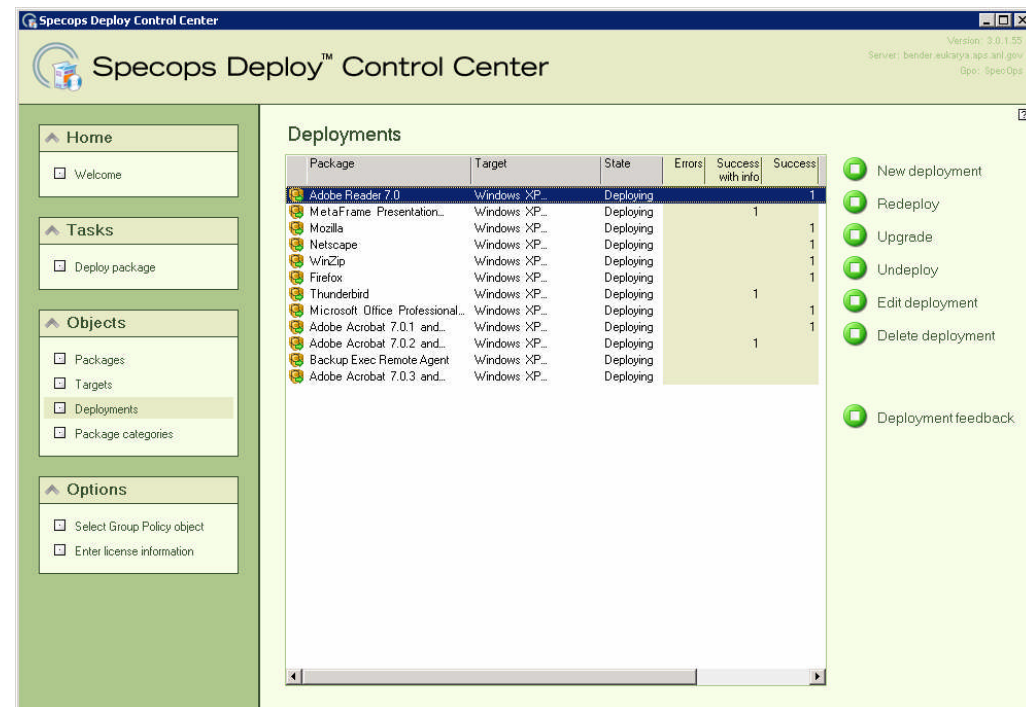
## *Other Services*

- Microsoft Project Server
  - Used by ASD to coordinate Accelerator activities.
- Hewlett-Packard Web Jet Admin Server
  - Used to configure, secure, and report errors for HP printers.
- Vocera
  - Instant voice communications between users via the 802.11 wireless infrastructure.



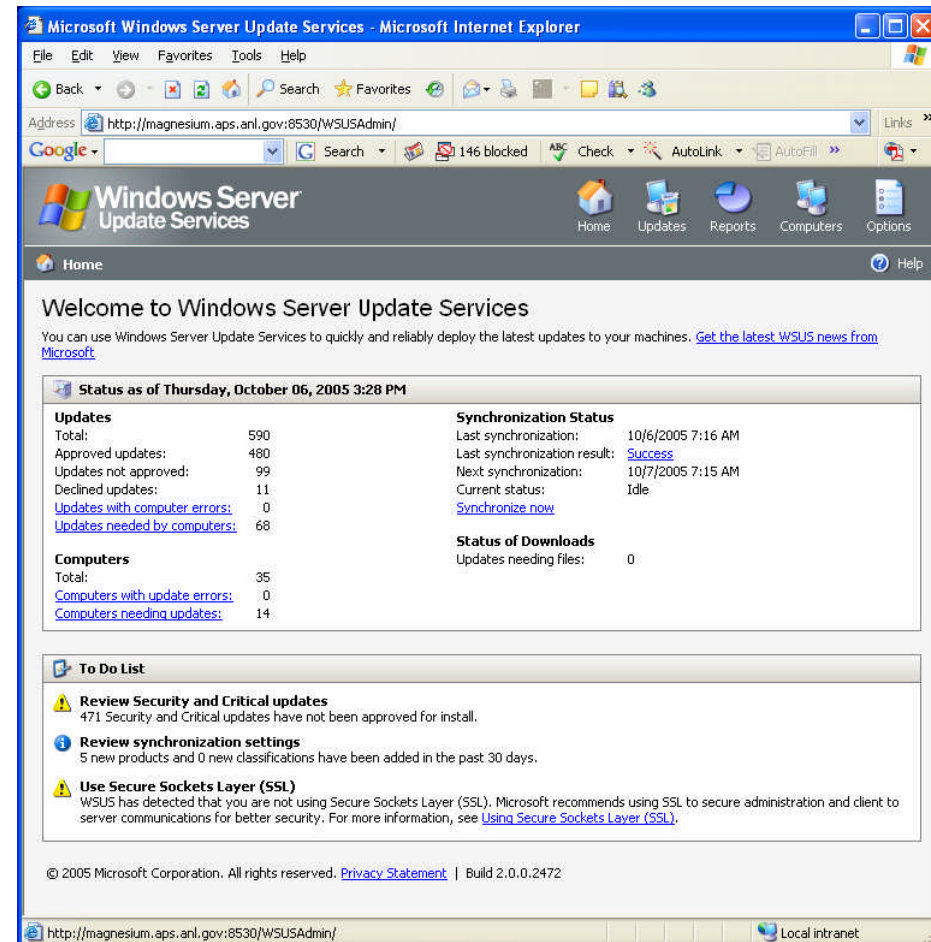
## *The Future - Software Deployments with SpecOps Deploy*

- SpecOps Deploy addresses the short comings in Active Directory's Software deployment
  - Scheduled and targeted deployments.
  - Feedback on how the deployment is proceeding.
  - Adds the ability to deploy traditional setup packages, such as Mozilla Firefox or Thunderbird.



## The Future - Window Server Update Services (WSUS)

- More effective updates:
  - Update Expert is “push” based. Only the systems that are on-line will get the updates.
  - WSUS is “pull” based. Systems will check-in with the WSUS server and will automatically download any required updates to the Windows operating systems or Microsoft Office applications.
  - WSUS will provide an effective patch management for systems that are not continuously online, for example laptops.



Microsoft Windows Server Update Services - Microsoft Internet Explorer

Address: <http://magnesium.aps.anl.gov:8530/WSUSAdmin/>

Windows Server Update Services

Welcome to Windows Server Update Services

You can use Windows Server Update Services to quickly and reliably deploy the latest updates to your machines. [Get the latest WSUS news from Microsoft](#)

Status as of Thursday, October 06, 2005 3:28 PM

Updates		Synchronization Status	
Total:	590	Last synchronization:	10/6/2005 7:16 AM
Approved updates:	480	Last synchronization result:	<a href="#">Success</a>
Updates not approved:	99	Next synchronization:	10/7/2005 7:15 AM
Declined updates:	11	Current status:	Idle
<a href="#">Updates with computer errors:</a>	0	<a href="#">Synchronize now</a>	
<a href="#">Updates needed by computers:</a>	68		

Computers		Status of Downloads	
Total:	35	Updates needing files:	0
<a href="#">Computers with update errors:</a>	0		
<a href="#">Computers needing updates:</a>	14		

To Do List

- Review Security and Critical updates**  
471 Security and Critical updates have not been approved for install.
- Review synchronization settings**  
5 new products and 0 new classifications have been added in the past 30 days.
- Use Secure Sockets Layer (SSL)**  
WSUS has detected that you are not using Secure Sockets Layer (SSL). Microsoft recommends using SSL to secure administration and client to server communications for better security. For more information, see [Using Secure Sockets Layer \(SSL\)](#).

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<http://magnesium.aps.anl.gov:8530/WSUSAdmin/> Local intranet

## *The Future – Software and Hardware Asset Inventory*

- In February 2005 the IT group was required to complete an inventory of all Microsoft products for the Laboratory's Enterprise Agreement with Microsoft.
  - Some of the inventory collection process was automated.
  - All of the data correlation was done by hand.
  - This inventory will need to be repeated yearly for the duration of the Enterprise agreement.
  
- “Asset Tracking” by Opsware (formerly Asset Insight by Tangram) provides automated hardware and software inventory and reporting.